The Effects of the NFL on Metro-level GDP

ECON 3161

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ABSTRACT

Behavioral economics studies the effects of psychological, social, cognitive, and emotional factors on economic decisions of individuals [1]. In this paper, we test for an observable relationship between the Gross Domestic Product (GDP) per capita of a metropolitan area with the performance of the local National Football League (NFL) team. The performance of the NFL team was defined using the team's average winning percentage in a given period and Superbowl performances and locations. We compile panel data for the 32 NFL programs and GDP per capita of 30 metropolitan areas over a 8-year period. The data was divided into periods based on the Economic Recession of 2009. We hypothesize that a team's performance will positively impact the GDP per capita of the specified metropolitan area due to a boost in local morale reflected through increased consumption. Our results indicate that there is no observable relationship between the performance of a NFL team and the GDP per capita of the metropolitan area that hosts the team.

I. INTRODUCTION

Behavior economic is a branch of economics that factors in realistic human interaction into situations. Outside behavior economics, individuals are assumed to make more ideal, selfish economic decisions without consideration of human concepts such as ones mood. For the purpose of this paper, we will focus a specific concept within behavior economics. Using the basic definition of GDP, which can be seen in Equation 1 taken from [Source], GDP (Y) is equal to the summation of consumption (C), investment (I), government expenditures (G), and net exports (NX).

$$Y = C + I + G + NX \tag{1}$$

In Equation 1, consumption and Net Exports are the two variables in the equation that we anticipate being affected by the performance of the NFL teams. Simply put, happy individuals tend to consume more and are also more productive than their unhappy counterparts. Due to the difficulty of finding data related to the specific exports of metropolitan areas in the United States, this paper focuses on the effect on consumption, while holding the net exports constant. As consumption increases, GDP should also increase holding all other factors constant.

Revealing a relationship between the performance of NFL teams and the economic well being of a city has the potential to create many benefits. First of all, confirming the hypothesis would provide evidence that increases in employee happiness results in stimulating economies. This principle could become a tool that can be applied to regions needing economic growth. Secondly, confirming the hypothesis could provide reason to expand the professional sports leagues, if the hypothesis holds constant across all sports. Regardless of the application of the knowledge, confirming the hypothesis would provide more tools that could be utilized to stimulate economies and/or better understand the economies.

The remainder of the paper is structured in the following manner. Section 2 reviews the relevant literature and details the unique contributions of this paper. Section 3 describes the data used in the regression models. Section 4 presents and discusses the results of the single and multiple regression models from STATA. Section 5 concludes the research and findings. An appendix with relevant graphics follows section 5.

II. LITERATURE REVIEW

2.1 The Impact of Professional Sports on the Local Economy

Walker and Enz (2006), analyze whether professional sports teams have a positive or negative impact on local economies. They refute the claim that professional teams actually hurt local economies because they use public money to help raise funds to make state of the art stadiums or renovations. They state that in the past public money was used to help fund the team's expansion, but in more recent times we see a lot more private investors instead of public money. In the article the doctor's look specifically at the Springfield Falcons, a professional hockey team in Springfield, Massachusetts, and their impact on the local Springfield economy. In the study they talked to Russell Denver, the president of the affiliated chambers of commerce of greater Springfield. He says he believes those professional sports teams are a "unique economic engine" that bring a lot of "intangible benefits" that many past economic studies didn't take into consideration. He says there are many ways that the Falcons help the economy of the greater Springfield area. Denver says that one of the benefits Springfield gets from the Falcons is the publicity perk that accompanies hosting a team. The Falcons also have 10 full time employees and 26 part time employees on staff a year, both full time and part time (the players) normally buy or rent homes in the greater Springfield area, and because they spend some much time in the city the players and executives tend to spend the majority of their money at local stores and shops. Springfield also sees a boost in their economy due to the Falcons; due to the amount of money the teams spend on local bus system, local doctors, media outlets, and advertisements. After speaking with Russell Denver, Dr. Walker, and Dr. Enz, noticed that it seems as if majors companies don't benefit as much as the smaller businesses. But they conclude that sports often generate indirect economic benefits through fans spending [2].

2.2 The Effect of Professional Sports on Earnings and Employment in the Service and Retail Sectors in U.S. Cities

This article is looking at the relationship between the sports environment against the employment and earnings of workers in sectors closely related to the sports entertainment business (TV, Radio, Restaurants, ect). To measure this Coates and Humphreys (2007) looked at the level of growth rate of real per capita personal income. Dr. Coates, and Dr. Humphreys state that many economist that don't believe that sports have much economic impact on the economy say that the sales of drinks and food in or around the stadium are just taking away from other establishments that are not close to the stadium of the professional team. They ran a regression using wages in

services, retail, hotels, amusements and recreation, and eating and drinking places and employment in services and retail as their depend variables and growth rate of unemployment at the time period previous as their independent variable. They used the information from the regression to test the null hypothesis that the sports environment variables are jointly insignificant. Their results suggest that professional sports have a small positive effect on earnings per employee in the amusement and recreation sector but that this positive effect is offset by a decrease in both earnings and employment in other sectors of the economy. Overall they thought they "shed new light" on why professional sports reduce the level of income in cities. This is by looking at the negative effect of sports on earnings of employees of restaurants and bars, and on employment in retail and services support the idea that sports reduce real per capita income in cities through both substitution in private spending and through the creation of new jobs which pay less than average prevailing wage [3]

2.3 The Economic Impact of College Football Games on Local Economies

This paper discusses the economic impact of spectator sports on local economies, specifically college football. The analysis took data from 63 metropolitan areas from1970-2004 that host big-time college football programs. Total live attendance at all college football games in 2006 was nearly 48 million fans, more than double attendance of the NFL, NBA, and NHL. Some teams were able to gain an attendance of over 100,000 fans per home game. The University of Michigan and the Ohio State University have the largest live paid attendance of any sporting events in the country.

Looking at the TV ratings for college football also shows that it has a great deal of clout amongst sports fans. The BCS championship was the second most watched sporting event only behind the NFL Super Bowl and draws almost twice as many views as a game of the NBA Finals and MLB World Series. The popularity of college football has led schools and local communities to invest into their own programs. Many schools have integrated new facilities and equipment on a consistent basis.

Other articles have also looked into the secondary economic impact the success of college football has on programs and players. I.B. Tucker reported in 2005 that a higher winning percentage in football enabled a university to attract more undergraduate applications, however this effect was considered small. However, Tucker also reported in the same paper that more success on the field led to a lower graduation rate.

The authors discuss that they chose to look at college football as opposed to professional sports because professional sports teams are usually located in major metropolitan areas, whereas the majority of college teams are located in “college towns” where they can have a greater impact on the local economics. The model used was designed to predict changes in personal income, employment and real per capita income attributable in college football host cities between 1970 and 2004. The analysis including 63 cities that are home to a team in one of the six BCS conferences; Notre Dame, BYU and Air Force were added to the analysis because of their attendance levels and the success of their programs [4]

Neither the number of home games played, the winning percentage of the local team, nor winning a national championship has a discernible impact on either employment of personal income in the cities where the team plays.

III. DATA

3.1 Overview of Variables

In order to estimate the impact of an NFL team's presence and performance on the GDP of a metropolitan area, we added a four new variables to the GDP formula shown in Equation 1. The new GDP formula shown in Equation 2 was used where *WinPerc* represents the winning percentage of the local NFL team, *SBWin* represents whether or not the local NFL team won the Super Bowl, *SBHost* represents whether or not the metropolitan area hosted the Super Bowl, and *Playoff* represents whether or not the local NFL team went to the playoffs.

$$Y = C + I + G + X + WinPerc + SBWin + SBHost + Playoff \quad (2)$$

The following assumptions were made concerning the aforementioned variables to assist in the data collection process.

1. Consumption is proportionate to ones' personal income. As personal income increases, consumption increases. [C = Personal Income/Capita]
2. Based on Keynesian view of economics, Investment is equaled to savings. The difference in savings rate in various metropolitan areas is marginal, therefore, savings rates were assumed to be constant across the country. [I = Controlled Variable]
3. Government Expenditures at the state level are an accurate representation of the government expenditures at the metropolitan level.

The previously mentioned assumptions allow the creation of the more specific GDP equation that will be discussed in this report. The equation can be seen in Equation 3

$$Y = \beta_0 + \beta_1 WinPerc + \beta_2 Playoff + \beta_3 SBWin + \beta_4 SBHost + \beta_5 PersInc + \beta_6 GovExp \quad (3)$$

where Y represents the metropolitan area GDP per capita, *PersInc* represents the metropolitan area personal income per capita, *GovExp* represents the state level of government expenditures per capita, and the remaining variables are the same as in Equation 2. Net exports were removed from the equation due to the difficulty of isolating exports on the state and metropolitan areas.

Data for Equation 3 was collected and will be utilized for a multiple regression in STATA. For the simple regressions, Equation 3 was restricted to Equation 4 and Equation 5 for different purposes.

$$Y = \beta_0 + \beta_1 PerInc + \beta_2 GovExp \quad (4)$$

$$Y = \beta_0 + \beta_1 WinPerc \quad (5)$$

Equation 4 was formulated to determine how much of GDP could be explained using personal income. Equation 5 was formulated to determine if the winning percentage alone could explain GDP. The remainder of this section will explain each of the variables and the reasoning for including the variables in the regressions.

Each of the variables was averaged over two three-year periods on either side of the 2009 recession. The recession was chosen as a breaking point because the normal trends of GDP were noticeably abnormal. The years from 2006 to 2008 were classified as the pre-recession period. The years from 2011 to 2013 were classified as the post-recession period. The year denotes the time at which the season ended (ie. The 2005 – 2006 NFL season is classified as 2006).

3.2 Explanation of Variables

Win Percentage (*WinPerc*) – In the NFL, the win percentage of a team is the ratio of regular season games won to regular season games played. This variable was chosen due to its ability to determine how a NFL team preformed in a given season. The records of NFL teams are archived on the NFL's website, which is where this data was compiled [5]. This variable is represented by a value between 0 and 1 that correlates to a percentage.

Playoff Appearances (*Playoff*) – In the NFL, the best six teams from each of two divisions is selected to compete in a tournament-style playoff that concludes with the Super Bowl. This variable was included to give more insight to the performance of the NFL teams. Simply making the playoffs boost the morale of fans. This information was pulled from Wikipedia [6]. This variable is represented as the number of times a specific team made the playoffs in a given time period.

Super Bowls Won (*SBWin*) – In the NFL, the Super Bowl is the annual championship game. This variable was included to provide additional insight into the performance of NFL teams as well. Winning the Super Bowl is the ultimate accomplishment for all NFL teams and in turn the most-desired outcome for fans. The Super Bowl records are recorded on the NFL website. This variable is represented as the number of times a specific team won the Super Bowl in a given time period.

Super Bowls Hosted (*SBHost*) – In the past, Super Bowls have been estimated to make large economic impacts on the host cities. The 2014 Super Bowl at Metlife Stadium in East Rutherford, New Jersey was expected to bring $600 million to the area [7]. Being that this report is designed to estimate the economic impact, the location of the Super Bowl was included in the regression. This variable is represented as the number of times a specific metropolitan area hosted the Super Bowl in a given time period.

Personal Income per Capita (*PersInc*) – As shown in Equation 1, consumption is utilized to calculate GDP. As mentioned in the 1st assumption of this report, personal income per capita is being used to account for the consumption of the civilians. Although a specific proportion of personal income is allocated to consumption, as personal income increases so does consumption. This measure was taken per capita to account for various population sizes in the metropolitan areas. The personal income per capita in each metropolitan area was gathered from the Bureau of Economic Analysis [8]. This variable is represented as a per capita dollar amount corresponding to a specific metropolitan area.

Government Expenditures per Capita (*GovExp*) – Similar to personal income, government expenditures has also been proven to have an effect on GDP as can be seen in Equation 1. Government expenditures is the summation educational expenditures, military expenditures, healthcare expenditures, and welfare expenditures. As governments spend more, the GDP grows through a multiplier effect. The state level GDP per capita was taken from the American Community Survey [9]. This variable is represented as a per capita dollar amount corresponding to a specific state.

3.3 Gauss-Markov Assumptions

The five Gauss-Markov assumptions for a classical linear model are as follows:

1. The model in the population can be written as Equation 6.

$$y = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k + u \quad (6)$$

2. A random sample of *n* observations was used for the regressions.
3. None of the independent variables is constant and there are no exact linear relationships among the independent variables.
4. The error *u* has an expected value of zero given any values of the explanatory variables.
5. The error *u* has the same variance given any values of the explanatory variables.

None of the aforementioned assumptions are violated by the variables used in the recessions included within this report. Table 1 in the Appendix contains the recession data set.

IV. RESULTS

4.1 STATA Regression Table

Table 1 contains the t-stats and other relevant values from the various regression of GDP using the average personal income per capita as an explanatory variable. Models 1 and 2 correspond to the pre-recession and post-recession regression of Equation 5, respectively. Models 3 and 4 correspond to the pre-recession and post-recession regression of Equation 4, respectively. Models 5 and 6 correspond to the pre-recession and post-recession regression of Equation 3, respectively. For convenience, each of the aforementioned equations has been duplicated below.

$$Y = \beta_0 + \beta_1 WinPerc + \beta_2 Playoff + \beta_3 SBWin + \beta_4 SBHost + \beta_5 PersInc + \beta_6 GovExp \quad (3)$$

$$Y = \beta_0 + \beta_1 PerInc + \beta_2 GovExp \quad (4)$$

$$Y = \beta_0 + \beta_1 WinPerc \quad (5)$$

Table 1. Regression Results (Dependent Variable: GDP per Capita)

Independent Variables	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Win Percentage	0.13	2.04**	-	-	-0.82	-1.21
Super Bowl Wins	-	-	-	-	-0.19	-0.72
Super Bowls Hosted	-	-	-	-	-1.11	2.47**
Playoffs Attended	-	-	-	-	1.02	2.15**
Personal Income	-	-	4.00***	8.77***	3.30***	9.56***
Gov't Expenditures	-	-	0.37	-0.63	0.13	-0.77
Intercept	8.73***	6.49***	-0.16	-0.19	0.61	-0.04
No. of obs.	32	32	32	32	32	32
R-square	0.0005	0.1216	0.4509	0.7805	0.5056	0.8564

*t-stats Significant at 10%, **5%, ***1%

4.2 Interpretation of Results

The first two models solely evaluate the relationship between the average winning percentage of a NFL team and the GDP per capita of the metropolitan area that hosts the team.

Model 1 – The win percentage in this model provided a t-stat of 0.13, which is too low to reject the null hypothesis that the coefficient is significantly different from zero. Thus the average win percentage of a given NFL team prior to the recession does not seem to have a significant impact on the GDP per capita of the metropolitan area.

Model 2 – The win percentage in this model provided a t-stat of 2.04, which is enough to reject the null hypothesis that the coefficient is significantly different from zero at a 5% significance level. Thus the average win percentage of a given NFL team after to the recession seems to have a significant impact on the GDP per capita of the metropolitan area. The win percentage beta coefficient was determined to be around 26750. Given that any particular season has 16 games and the win percentage is a value between 0 and 1, winning an additional game every year correlates to a win percentage increase of 0.0625, which correlates to a $1670 GDP per capita increase.

Based on the low R-squared values of these simple regression models, there is more than likely an omitted variable error because most of the error is unexplained. Due to this finding, the regression equation was altered to view GDP in another light. The next two models substitute personal income per capita and government expenditures per capita for additional insight.

Model 3 – The personal income and government expenditures per capita provided t-stats of 4.00 and 0.37, respectively. Personal income per capita was determined to be significant at levels beyond 1% while government expenditures per capita proved to not be significant at any reasonable measures. This result signifies that personal income per capita has a definite impact on GDP per capita while the measure of government expenditures per capita used in this regression does not. The personal income beta coefficient was determined to be 1.29, which means that every $1.00 increase in personal income per capita correlates to a $1.29 increase in GDP per capita in a certain metropolitan area.

Model 4 – This model produced similar results to the Model 3 regression. Similar to Model 3, government expenditure per capita was determined to be insignificant. Similar to Model 3,

personal income per capita was determined to be significant at levels beyond 1%. The t-stat of personal income per capita more than doubled to 8.77. The beta coefficient for Model 4 determined to be 1.29 as well. Through the same reasoning as above, a $1.00 flux in personal income correlates with a $1.29 flux in GDP per capita.

The R-squared values for Models 3 and 4 increased significantly from those of Models 1 and 2, which means that personal income and government expenditures per capita explain changes in GDP per capita better than NFL team win percentages. In order to evaluate how all of these variables can explain GDP per capita together, Models 5 and 6 were run.

Model 5 – In this unrestricted multiple regression model, all of the variables discussed were utilized. Personal income per capita is the only variable that provided a sufficient t-stat value for significance. The t-stat was determined to be 3.30, which is significant at levels beyond 1%. The corresponding beta coefficient was 1.17, which means every $1.00 increase of per capita personal income corresponds to a $1.17 increase in GDP per capita.

Model 6 – In this post-recession unrestricted model, all of the variables were also included. In this model, however, personal income per capita, Super Bowls hosted, and playoffs attended all proved to be significant variables with t-stats of 9.56, 2.47, and 2.15, respectively. The corresponding beta coefficients for each of those variables were 1.36, 7075, and 3160, respectively. Based on these coefficients, GDP per capita in a specific metropolitan area increases by $1.36 with a $1.00 increase in personal income per capita, increases by $7075 when the metropolitan area hosts the Super Bowl, and increases by $3160 when the local NFL team makes the playoffs. Personal income per capita was determined to be significant at levels beyond 1% while hosted to Super Bowl and making the playoffs proved to be significant at levels around 5%.

4.3 Robustness Test (F-Stat)

In order to determine how robust the models are, a f-stat test was run to compare the unrestricted models 5 and 6 to the restricted models 1 through 4. The equation used for the f-stat using R-squared values can be seen in Equation 6 where *UR* signifies unrestricted, *R* signifies restricted, *q* represents the number of restrictions, and *n-k-1* represents the degrees of freedom. The results can be seen in Table 2.

$$F = \frac{(R^2_{UR} - R^2_R)/q}{(1 - R^2_{UR})/(n-k-1)} \quad (6)$$

Table 2. F-Stat Results

Restricted Model	Unrestricted Model	No. of Restrictions	Degrees of Freedom	F-Stat	Critical Value
Model 1	Model 5	5	25	5.11	3.85
Model 2	Model 6	5	25	25.58	3.85
Model 3	Model 5	4	25	0.69	4.177
Model 4	Model 6	4	25	3.30	4.177

The number of restrictions in models 1 and 2 is 5 because the only variable in the restricted variable is the average win percentage. Similarly, models 3 and 4 restrict all four NFL values except personal income per capita and government expenditures. The last column in Table 2 contains the critical values for the robustness test.

Models 1 and 2 both reject the null hypothesis that the omitted variables are jointly insignificant meaning that winning percentage alone cannot predict the GDP of a metropolitan area. Models 3 and 4 both fail to reject the null hypothesis that omitted variables are jointly significant. This means that without the NFL performance variables together are not significant to the regression.

V. CONCLUSION

The initial hypothesis stated that a NFL team's performance and status would impact the GDP per capita in the local metropolitan area. This hypothesis was rejected based on the previously mentioned regressions. Using the models mentioned in this report, there is no significant observable relationship between a NFL team and the GDP of the metropolitan area. Throughout this report, personal income per capita proved to be significant in each model discussed. Future derivations of this regression could be made using sub-divisions of personal incomer per capita.

Although the hypothesis was rejected, there could be errors in the regression. Perhaps the wrong measures were chosen to measure the performance and status of the NFL teams. Also being that fan bases are not limited to the geographic limits of the local team, for example Atlanta is known for being a city with a highly diverse fan base for many different teams. There is also the possibility of omitted variable error with variables such as net exports and investment.

APPENDIX

Model 1

```
. regress GDP_Pre Win_Pre
```

Source	SS	df	MS	Number of obs =	32
				F(1, 30) =	0.02
Model	1643883.75	1	1643883.75	Prob > F =	0.9012
Residual	3.1450e+09	30	104834563	R-squared =	0.0005
				Adj R-squared =	-0.0328
Total	3.1467e+09	31	101505831	Root MSE =	10239

GDP_Pre	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Win_Pre	1592.214	12715.05	0.13	0.901	-24375.39	27559.82
_cons	57715.98	6610.161	8.73	0.000	44216.23	71215.73

Model 2

```
. regress GDP_Post Win_Post
```

Source	SS	df	MS	Number of obs =	32
				F(1, 30) =	4.15
Model	430326505	1	430326505	Prob > F =	0.0505
Residual	3.1096e+09	30	103651947	R-squared =	0.1216
				Adj R-squared =	0.0923
Total	3.5399e+09	31	114189836	Root MSE =	10181

GDP_Post	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Win_Post	26754.8	13130.8	2.04	0.050	-61.88387	53571.48
_cons	44161.69	6809.265	6.49	0.000	30255.32	58068.06

Model 3

```
. regress GDP_Pre Inc_Pre Gov_Pre
```

Source	SS	df	MS	Number of obs =	32
				F(2, 29) =	11.91
Model	1.4189e+09	2	709444585	Prob > F =	0.0002
Residual	1.7278e+09	29	59579020.6	R-squared =	0.4509
				Adj R-squared =	0.4130
Total	3.1467e+09	31	101505831	Root MSE =	7718.7

GDP_Pre	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Inc_Pre	1.29475	.3234325	4.00	0.000	.6332563	1.956244
Gov_Pre	.6590339	1.789987	0.37	0.715	-3.001902	4.319969
_cons	-1999.077	12475.5	-0.16	0.874	-27514.33	23516.18

Model 4

```
. regress GDP_Post Inc_Post Gov_Post
```

Source	SS	df	MS		
Model	2.7628e+09	2	1.3814e+09	Number of obs	32
Residual	777068183	29	26795454.6	F(2, 29)	51.55
				Prob > F	0.0000
Total	3.5399e+09	31	114189836	R-squared	0.7805
				Adj R-squared	0.7653
				Root MSE	5176.4

GDP_Post	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Inc_Post	1.296992	.1478164	8.77	0.000	.9946735	1.59931
Gov_Post	-.6416552	1.011563	-0.63	0.531	-2.710534	1.427224
_cons	-1144.672	6099.85	-0.19	0.852	-13620.27	11330.92

Model 5

```
. regress GDP_Pre Win_Pre Play_Pre SB_Pre Host_Pre Inc_Pre Gov_Pre
```

Source	SS	df	MS		
Model	1.5910e+09	6	265169569	Number of obs	32
Residual	1.5557e+09	25	62226534.1	F(6, 25)	4.26
				Prob > F	0.0043
Total	3.1467e+09	31	101505831	R-squared	0.5056
				Adj R-squared	0.3870
				Root MSE	7888.4

GDP_Pre	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Win_Pre	-18037.97	21938.53	-0.82	0.419	-63221.22	27145.29
Play_Pre	3233.398	3184.676	1.02	0.320	-3325.565	9792.36
SB_Pre	-1079.423	5680.109	-0.19	0.851	-12777.83	10618.98
Host_Pre	-5862.551	5271.082	-1.11	0.277	-16718.55	4993.445
Inc_Pre	1.172825	.355605	3.30	0.003	.4404432	1.905207
Gov_Pre	.2443037	1.893397	0.13	0.898	-3.655221	4.143828
_cons	11384.19	18801	0.61	0.550	-27337.18	50105.57

Model 6

```
. regress GDP_Post Win_Post Play_Post SB_Post Host_Post Inc_Post Gov_Post
```

Source	SS	df	MS		
Model	3.0317e+09	6	505275100	Number of obs	32
Residual	508234305	25	20329372.2	F(6, 25)	24.85
				Prob > F	0.0000
Total	3.5399e+09	31	114189836	R-squared	0.8564
				Adj R-squared	0.8220
				Root MSE	4508.8

GDP_Post	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Win_Post	-14582.27	12071.93	-1.21	0.238	-39444.87	10280.34
Play_Post	3160.666	1471.429	2.15	0.042	130.2016	6191.13
SB_Post	-2432.629	3379.654	-0.72	0.478	-9393.157	4527.899
Host_Post	7074.585	2866.636	2.47	0.021	1170.638	12978.53
Inc_Post	1.36056	.142318	9.56	0.000	1.067451	1.65367
Gov_Post	-.757919	.9872678	-0.77	0.450	-2.791235	1.275397
_cons	-275.2724	6384.374	-0.04	0.966	-13424.14	12873.59

Figure 1. List of NFL Teams

NFL TEAM	METROPOLITAN AREA
Atlanta Falcons	Atlanta, GA
Baltimore Ravens	Baltimore, MD
New England Patriots	Boston, MA
Buffalo Bills	Buffalo, NY
Carolina Panthers	Charlotte, NC
Chicago Bears	Chicago, IL
Cincinnati Bengals	Cincinnati, OH
Cleveland Browns	Cleveland, OH
Dallas Cowboys	Dallas, TX
Denver Broncos	Denver, CO
Detroit Lions	Detroit, MI
New York Jets	Florham Park, NJ
Green Bay Packers	Green Bay, WI
Houston Texans	Houston, TX
Indianapolis Colts	Indianapolis, IN
Jacksonville Jaguars	Jacksonville, FL
Kansas City Chiefs	Kansas City, MO
Miami Dolphins	Miami, FL
Minnesota Vikings	Minneapolis, MN
Tennessee Titans	Nashville, TN
New Orleans Saints	New Orleans, LA
New York Giants	New York, NY
Oakland Raiders	Oakland, CA
Philadelphia Eagles	Philadelphia, PA
Arizona Cardinals	Phoenix, AR
Pittsburgh Steelers	Pittsburgh, PA
San Diego Chargers	San Diego, CA
San Francisco 49ers	San Francisco, CA
Seattle Seahawks	Seattle, WA
St. Louis Rams	St. Louis, MO
Tampa Bay Buccaneers	Tampa Bay, FL
Washington Redskins	Washington, D.C.

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